17. Calculate Geometric Mean and Harmonic Mean from the following data:

X:	2	4	6	8	10
f:	3	5	7	4	1

18. Find Mean, Median, Mode and comment on the relationship for:

Marks :	0-10	10-20	20-30	30-40	40-50
No. of students	5	8	15	16	6

19. Calculate Standard Deviation and Coefficient of Variation for the following:

Wages :	100	200	300	400	500
Workers :	10	20	30	25	15

20. From the following data, calculate Karl Pearson's and Bowley's Coefficients of Skewness:

Class interval :	0-10	10-20	20-30	30-40	40-50
Frequency :	5	10	20	15	10

NOVEMBER/DECEMBER 2025

23UEIM32A — STATISTICAL METHODS AND ITS APPLICATIONS I

Time : Three hours Maximum : 75 marks

SECTION A — (10 × 2 = 20 marks)

Answer ALL questions.

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1. Define correlation.
2. State any two properties of Karl Pearson's correlation coefficient.
3. Outline the term regression line.
4. Distinguish between correlation and regression (any two points).
5. What is an index number?
6. Write the formula for Laspeyers Price Index.
7. Mention any two components of a time series.
8. Write the trend values using semi-average method. (Data given)

9. Define interpolation.

10. State Newton's forward interpolation formula.

SECTION B — (5 × 5 = 25 marks)

Answer ALL the questions.

11. (a) Compute Karl Pearson's correlation coefficient for the given data.

Or

(b) Find the Median for the given data:

Marks :	10,	20,	30,	40,	50
No. of students :	3,	7,	10,	15,	5

12. (a) The daily wages of 7 workers are: 120, 150, 130, 140, 110, 160, 170. Find the Mode.

Or

(b) Calculate the Geometric Mean of 4, 8, 16, 32.

13. (a) Find the Harmonic Mean of 5, 8,10,12,15.

Or

(b) For the data: 20, 25, 30, 35, 40, compute the Range.

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14. (a) Calculate the Quartile Deviation for the following values: 5, 8, 12, 15, 20, 25, 30, 35, 40.

Or

(b) The marks obtained by 6 students are: 15, 20, 22, 18, 25, 30. Find the Mean Deviation about Mean.

15. (a) Compute the Standard Deviation for the following data:

X :	10,	20,	30,	40,	50
f :	5,	10,	15,	10,	5

Or

(b) The following distribution is given. Find Karl Pearson's coefficient of skewness. Mean = 40, Mode = 30, Standard Deviation = 10.

SECTION C — (3 × 10 = 30 marks)

Answer any THREE questions.

16. Compute AM, Median and Mode for the following data and compare them:

Class :	0-10	10-20	20-30	30-40	40-50
Frequency :	4	7	10	8	6